



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

known because the economic value of coal has uncovered immense areas; while the Permian, Rhaetic, or Middle Triassic have depended upon the enthusiasm of about a dozen scientists. The flora of these horizons is probably as abundant and varied as that of the Carboniferous, but not so available.

In going back through the geological horizons, there is a gradual merging of Coniferophyte, Cycadophyte, and Ginkgophyte foliage toward seed-bearing "quasi-ferns." Also toward the early Paleozoic there seems to be some kind of contact between the early seed ferns and the older Lepidophyte types leading toward the primitive Gymnosperms. Whether well down in the Devonian some of the Lepidophytes, like the later seed ferns, may also have led into the primitive Gymnosperms is the real riddle of paleobotany, more so than the origin of Angiosperms. In almost all instances the doubtful border of Cycadeoid foliage ends in a tree forest of seed ferns, *Cordaïtes*, pines, araucarians, and Ginkgoes, but never in a recognizable scrub. It is stated that among the Cycadeoids will be found the lost forests and the greatest forest makers of the Mesozoic.

WIELAND suggests that from age to age great groups have come down side by side, undergoing endless change and losing apparent relationships; but almost no forms, scarcely a family, need be regarded as more ancient or more modern than any other. It is conceivable that all the antecedent types of Angiosperms are discrete separate lines leading back to the first forests of the Devonian.—J. M. C.

History of cotyledony.—BUCHHOLZ,¹⁰ in connection with his studies of embryo development in conifers, has reached certain conclusions in reference to the primitive condition of cotyledony and its subsequent evolution. His investigations showed that in a number of conifers fusions of cotyledons occur during embryogeny, and that there is no evidence of splitting. Fusion results not merely in a reduced number of cotyledons, but often in the development of cotyledonary tubes. The conclusion is that the primitive gymnosperm embryo had numerous cotyledons; that fusions resulted in a reduced number; that dicotyledony was attained either by a fusion of cotyledons into two groups or by an extremely bilabiate development of a cotyledonary tube; and that monocotyledony is the result of a cotyledonary tube becoming "unilabiate" in its development. According to these conclusions, therefore, polycotyledony is primitive, dicotyledony is derived, and monocotyledony is the extreme expression of cotyledonary fusion.—J. M. C.

Life cycle of climbing bamboo.—SEIFRIZ¹¹ has published some observations on one of the climbing bamboos (*Chusquea abietifolia*) growing in Jamaica.

¹⁰ BUCHHOLZ, J. T., Studies concerning the evolutionary status of polycotyledony. Amer. Jour. Bot. 6:106-119. figs. 25. 1919.

¹¹ SEIFRIZ, W., The length of the life cycle of a climbing bamboo; a striking case of sexual periodicity in *Chusquea abietifolia* Griseb. Amer. Jour. Bot. 7:83-94. figs. 5. 1920.